

ONE HUNDRED AND FOURTH SCIENTIFIC MEETING—FORTY-  
SEVENTH SCOTTISH MEETING  
PHYSIOLOGY LECTURE THEATRE, QUEEN'S COLLEGE, DUNDEE

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NUTRITION IN PREGNANCY

*Chairman : PROFESSOR R. C. GARRY, Institute of Physiology,  
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**Chairman's introductory remarks**

*By R. C. GARRY, Institute of Physiology, University of Glasgow*

In 1936 the late Dr Stiven and I opened a review on dietary requirements in pregnancy and lactation with the words: 'Though pregnancy and lactation are normal physiological processes, they make special demands on the maternal organism. In a sense they may be considered efficiency tests. Under the additional strain of pregnancy and lactation, constitutional weakness may become evident, and a diet adequate under other conditions may fail to meet the increased requirements' (Garry & Stiven, 1935-6). (Obviously the word 'stress' had not then attained its present popularity.) In that review I think I can detect a certain complacent, uncritical confidence that we were well on the way to an understanding of the many nutritional problems in pregnancy.

Ten years later Dr Helen Wood and I wrote another review on the same topic (Garry & Wood, 1945-6). We detected ' . . . . signs of the development of a more critical attitude, even of disillusionment . . . .' Nevertheless we reaffirmed our faith as follows: 'One fundamental empirical finding stands the test of time, that an ample diet of natural good foods is desirable both in pregnancy and in lactation as at other periods of life.'

And we continued: 'But it is quite certain that reproduction is not in itself a pathological process and that, if pregnancy and lactation seem to require inevitably routine mass therapeutic measures, then we may be sure that something is wrong with modern living or in the interpretation of our information.'

Here we expressed a belief in the wisdom of the body, and a somewhat reactionary attitude that one should let well alone and not interfere with natural processes. Even were this true, physiologists and biochemists ought obviously still to strive to understand these natural processes. For it is quite certain that in individuals there will be deviations from health and that these will be amenable to treatment only when we have a full understanding of the normal.

There is another aspect to this problem. In this modern world where the applications of physics and of chemistry increasingly dictate our way of life, we must have physiologists to hold a watching brief on behalf of mankind. That can be done

only out of a full understanding of the normal, especially when there is additional stress, however natural, on the body.

Another 10 years have elapsed. Where are we now? I have great pleasure in asking Dr Leitch to tell us.

#### REFERENCES

- Garry, R. C. & Stiven, D. (1935-6). *Nutr. Abstr. Rev.* 5, 855.  
Garry, R. C. & Wood, H. O. (1945-6). *Nutr. Abstr. Rev.* 15, 591.

### Changing concepts in the nutritional physiology of human pregnancy

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It seems to me sometimes that famous dicta of famous men, if repeated often enough, have the unfortunate effect of sterilizing thought instead of enlivening it. For instance the dictum of Claude Bernard that 'La fixité du milieu interieur c'est la condition de la vie libre', by focusing the attention of physiologists and biochemists on the static aspect of the composition of bodies, and on physiological devices and dietary requirements to maintain the static equilibrium, may have contributed to a somewhat rigid attitude of mind. So many are still reluctant to recognize that the equilibrium of the *milieu intérieur* may be set at different levels in the same organism and they continue to regard as pathological much of the amazing range of variation that is, in fact, compatible with healthy life. Pregnancy offers an outstanding example of this.

#### Twenty years ago

When Garry & Stiven (1935-6) wrote the first review of metabolism in pregnancy for *Nutrition Abstracts and Reviews*, 20 years ago, it was customary to assess the normality of the pregnant woman, for instance in respect of composition of the blood and basal metabolic rate, by comparison with accepted standards for non-pregnant women, and inquiries about diet were concerned with how much extra protein or calcium or iron the pregnant woman might require to supply the foetus and additional maternal tissues. And this attitude persisted although it had already been demonstrated that, on any ordinary diet in this country or America, the pregnant woman stored nitrogen and structural minerals in amounts far in excess of those in foetus and maternal accessory tissues. 'The diagnosis of anaemia' the review says 'will depend on the "normal" standard adopted for non-pregnant women, which is difficult to define, since the range of variation is wide'. And, of course, a diagnosis of anaemia meant the prescription of iron.

On the other hand, we have this pearl of wisdom following a review of studies of birth weight: 'Hence, it is possible that, under any but extreme conditions, the birth weight of the child depends less on the food intake of the mother than on its